

AGENDA
Transportation Advisory Committee
~~Committee Room 2~~ via Microsoft Teams
Saanich Municipal Hall, 770 Vernon Road
Thursday, January 25, 2024, at 4:00 p.m.

The District of Saanich lies within the territories of the ləkʷəŋən peoples represented by the Songhees and Esquimalt Nations and the WSÁNEĆ peoples represented by the Tsartlip, Pauquachin, Tsawout, Tseycum and Malahat Nations.

We are committed to celebrating the rich diversity of people in our community. We are guided by the principle that embracing diversity enriches the lives of all people. We all share the responsibility for creating an equitable and inclusive community and for addressing discrimination in all forms.

- 1. CHAIR'S REMARKS & WELCOME**
- 2. APPROVAL OF MINUTES – November 23, 2023**
- 3. REVIEW OF COMMITTEE TERMS OF REFERENCE AND MEETING DATES**
 - Councillor Phelps Bondaroff
- 4. BIKE EDUCATION**
 - Jame Coates, Capital Bike
- 5. NOISE CAMERAS - PILOT PROJECT**
 - Councillor Phelps Bondaroff
- 6. VEHICLES IN BIKE LANES – SAFETY AND LOGISTICS**
 - Councillor Phelps Bondaroff

* Adjournment *

Next meeting: February 22, 2024

To ensure a quorum, please contact Angela Hawkshaw at 250-475-5494 ext. 3505 or angela.hawkshaw@saanich.ca if you are unable to attend.

Transportation Advisory Committee

Terms of Reference

Mandate

The mandate of the Transportation Advisory Committee is to provide recommendations, advice and information to Saanich Council and staff on matters that relate to the purpose of the committee and on any matters which are referred to the committee by Saanich Council or staff.

Purpose

The purpose of the Transportation Advisory Committee is to advise Saanich Council and staff on matters relating to transportation policy, regulation, and programming. The Transportation Advisory Committee (TAC) will advise on:

- Policy including, but not limited to, corridor plans, the Active Transportation Plan, the Road Safety Action Plan, and the Speed Limit Establishment Policy.
- Matters related to active transportation including:
 - increasing active transportation mode share
 - working towards zero traffic-related fatalities and serious injuries
 - reducing greenhouse gas emissions and travel demand on roadways
 - providing amenities and design specifications to deliver a successful active transportation program in the municipality.
- Development of transportation bylaws and amendments to existing bylaws.
- Long-range road system and traffic planning.
- Issues relating to road safety that fall within a Safe Systems approach and include:
 - Safe speeds
 - safe road design, infrastructure, and signals
 - Safe road users who act in accordance with the laws and make safe decisions when they travel
 - Vehicle safety
 - Land use planning decisions that consider safety for all road users
 - Post crash care

The TAC will also:

- Provide a community perspective related to environmental and health considerations, and regional connectivity.
- Increase awareness of multi-modal transportation through promotion, education and community outreach.
- Provide advice and leadership on citizen and stakeholder engagement.
- Encourage land use patterns that support multi-modal transportation

Meetings

The Committee will meet a minimum of four times per year in accordance with its regular schedule of meetings established annually at the first meeting of the year. No meetings are held during the summer and winter breaks (July, August and December). Special meetings may be held at the call of the Chair. The meeting rules and procedures will be in accordance with the Council Procedure Bylaw. Quorum for the Committee is a majority of its appointed voting members, including the Chair.

Membership

To the extent possible, Advisory Committees will have a diverse membership with respect to gender, age and cultural-ethnic background.

Transportation Advisory Committee Terms of Reference

The Committee will consist of nine (9) members qualified in the discipline relevant to the committee mandate or with a perspective necessary for fulsome consideration of the associated topic, with preference given to some specific areas including:

- A member of Council to serve as Chair, appointed by the Mayor.
- A member of a Parent Advisory Group, preferably with experience in Safe Routes to School programming.
- A member with expertise in mobility of people with disabilities.
- A member with transit experience.
- A member who primarily uses active transportation for their daily activities.
- A member employed or with previous experience in the goods movement or taxi/ride-hail industry.
- A member with knowledge or experience in the fields of transportation planning or engineering.
- Where possible, a youth member described as 16-24 years of age.
- Where possible, a senior member.
- Where possible, at least one (1) member who is an Indigenous person.

Members may serve a maximum of seven years on an Advisory Committee, consisting of a one-year term followed by a potential for three, two-year terms. Members who wish to be re-appointed after the completion of a term must re-apply and provide the application and their resume for Council's consideration.

Island Health Authority may assign a trustee to the Committee as a non-voting liaison.

Staff Support

The Engineering Department is the primary contact and together with the Parks, Recreation and Community Services Department will provide the required professional support. Meeting preparation, agendas and minutes of meetings of the Committee will be provided by the Legislative Services Division.

Memo

File: 1420-30

To: Transportation Advisory Committee
From: Angela Hawkshaw, Committee Clerk
Date: January 18, 2024
Subject: 2024 Meeting Dates for TAC

As per Section 73 of Council Procedure Bylaw, 2021, No. 9660, each committee shall establish a regular schedule of meetings including the date, time, and place of the committee meetings.

Committee Room 2 has been booked for the fourth Thursday of the month from 4:00 p.m.– 6:00 p.m. for the year, excluding July, August, and December.

Dates for your calendars are as follows:

2024 Meeting Dates
January 25
February 22
March 28
April 25
May 23
June 27
September 26
October 24
November 28

No formal motion is required to approve the meeting schedule.



Angela Hawkshaw
Committee Clerk

**MINUTES
TRANSPORTATION ADVISORY COMMITTEE
MS Teams
Thursday, November 23, 2023, at 4:02 p.m.**

Present: Councillor Teale Phelps Bondaroff (Chair), Trevor Barry, Alexandre Beaubien, Georgia Myles, Douglas Pascoe, Colin Stepney

Staff: Troy McKay, Transportation Manager, Engineering; Megan Squires, Senior Transportation Planner, Engineering; Kirsten Brazier, Senior Committee Clerk.

Regrets: Rachel Corder, Andrea Glen, Janine Konkel

CHAIRS REMARKS

Councillor Phelps Bondaroff welcomed the committee and guests.

APPROVAL OF MINUTES

MOVED by C. Stepney and A. Beaubien: “That the minutes of the October 26, 2023, Transportation Advisory Committee meeting be adopted as circulated.”

CARRIED

ACTIVE TRANSPORTATION UPDATE – ENDORSEMENT MOTION

The Chair introduced a committee motion to endorse the Active Transportation Plan (ATP).

MOVED by T. Barry and A. Beaubien: “That the Transportation Advisory Committee (TAC) support the Final Draft Active Transportation Plan with minor updates to the mapping, which are currently underway.”

CARRIED

BC TRANSIT PRESENTATION

Chelsea Mossey, Senior Manager of Government Relations and Levi Megenbir, Senior Transit Planner, BC Transit provided an update on transit in the region. (Presentation on file).

- BC Transit saw 22.4 million boardings in 2022/23.
- Ridership is now back to 93% of pre-pandemic ridership levels.
- The Victoria Regional Transit System (VRTS) offers over 1 million service hours annually and has a fleet of more than 350 busses.
- The Victoria Regional Transit Commission (VTRC) is responsible for establishing transit priorities and routes, setting fares and budgets, and the local tax subsidies.
- BC Transit operates the local transit services.
- BC Transit collaborates with local government on bus stops and shelters, infrastructure, local planning initiatives, development referrals and stakeholder engagement.
- BC Transit has recently submitted an engagement workbook to the Capital Regional District (CRD) Board on transportation governance.
- Multiple infrastructure and upgrade projects are currently underway to support a project fleet of 700 electric busses for the region over the next 25 to 30 years.
- Transit facilities in Victoria and Langford are undergoing upgrades and a third transit centre is being planned for Saanich.
- A new handyDART facility is being built in View Royal.

- The transit system has some of the highest frequency, highest ridership routes operating through Saanich, including Routes 4, 6, 14, 26, 27/28, and 95.
- As of the Fall 2023 service period, Saanich is seeing an average of 29,500 weekday boardings, which accounts for approximately 35% of total system weekday boardings.
- RapidBus is a rapid transit service designed to connect and support designated urban centres of high density, mixed-use areas of the region.
- Features of RapidBus include branded services, corridor treatments, unique stations, limited stops and high frequencies.
- The RapidBus Implementation Strategy was endorsed by the Victoria Regional Transit Commission in 2021. Phase One of the West Shore RapidBus line is now completed.
- Phase Two includes a corridor study of the McKenzie RapidBus line.
- The Peninsula RapidBus line is captured in Phase Three and includes RapidBus stations and a transit hub in Sidney.
- The Transit Future Plan (2011) identifies a transit network with a hierarchy of series including Rapid Transit, Frequent Transit, Local Transit and Targeted Transit services.
- Local Area Transit Plans build upon the vision developed in the Victoria Region Transit Future Plan and the Victoria Regional Transit System 2013/14 Service Review.
- The plans support community development by building upon the direction established within a community's Official Community Plan and relevant municipal transportation and land use plans.
- The Regional Corridor Strategy (RCS) will replace the 2011 Transit Future Plan and update the Transit Future Network, with the intention to update the document biannually. The RCS will develop a regional corridor strategy with a supporting work plan to prioritize and:
 - Update the regional and local transit networks to align with the future Uptown Mobility Hub development
 - Update the network to support crosstown network development
 - Support service and infrastructure planning for future RapidBus corridors
 - Support land use and transit integration by aligning with upcoming Local Government Partner corridor planning processes
- The top three priority corridor transit plans emerging from the Regional Corridor Strategy are Quadra Street, Tillicum/McKenzie, and Hillside Avenue.
- Future service expansion includes:
 - RapidBus and Frequent Transit Network service improvements
 - Development of the crosstown network on the Hillside/Gorge and Admirals/McKenzie corridors
 - Simplifying and improving transit service on the Quadra corridor
 - Improvements to YYJ Airport and Peninsula service
- The Umo Electronic Fare Collection System was rolled out in the summer. The system has the future ability to enable onboard credit and debit card tap payments.
- There are over 14 thousand active Umo riders per day. The Umo platform offers flexibility to accept a range of payments and passes in the future. Benefit codes could be issued for transit fares.
- In the coming weeks, the project plans to progress with regional transit system deployments, starting with the Cowichan Regional and Regional District of Nanaimo transit systems. This will provide riders in the VRTS the ability to seamlessly travel to the Cowichan Valley and Central Island with one payment method and fare product.
- In the VRTS, the project's attention will focus on supporting riders who have yet to make the transition to a Umo payment method before the old fare system is turned off.

- Public engagement of a fare review has just completed and will be going to the VRTC in February.
- The NextRide Technology Refresh project is funded through the Investing in Canada Infrastructure Program. This project is being cost shared with the Government of Canada contributing 50 percent, the Province of British Columbia contributing 40 per cent and local government partners are contributing the remaining 10 percent. The cost for the entire project is \$16.8 million.
- NextRide screens will be retrofit into existing buses starting in February.

Committee Discussion

- It was suggested that mixed modal trips could be a topic to explore at future transit meetings.
- Luggage is a challenge that transit continues to look at option to establish best practices for transit users.
- At this time there is no plan to change the front bike racks to a system that could accommodate more than two bikes at a time.
- Safe bike lockers are located at the Sooke Park and Ride, the Royal Oak exchange and the McTavish Park and Ride.
 - The success of lockers is dependent on community partnerships for advocacy, use and management.
- Bike rack training stations could be a future consideration.
 - There is an educational video on the transit website on how to use the racks.
 - Having ambassadors at events to implement bike rack education would be dependant on available busses, which are currently in short supply.
- BC Transit provides local governments with guidelines that include minimum standards for accessible bus tops.
- The BC Transit Bus Shelter Program provides partnerships with municipalities to cost share the installation for accessible stops. Saanich is the biggest user of the bus shelter partnership program.
- When a stop is removed the bus shelters are relocated if they are in suitable enough condition to reuse.
- Transit integration with school routes is ongoing with Transit staff. Transit works with middle and high schools to meet bell schedules as best as possible.
- The 12 and Under Ride Free program and the use of NextRide are helpful to students.
- The Bus Ready program is aimed at educating children on how to ride the bus and safety tips. Transit ambassadors will visit schools to talk with children about using the bus.
- Concerns regarding fare governance and equity in the region are best addressed to the VRTC.
- BC Transit is applying an equity lens to long term planning.
- Frequent transit networks are aimed at attracting a broad demographic of users.
- Passenger comfort metrics for seniors are being monitored and considered by transit staff. Transit has been working to encourage seniors to use a mixed model of transit (both busses and handiDART).
- BC Transit was the first to have a 100 percent low floor accessible fleet.
- Passenger comfort metrics are established and evaluated.
- Communications are sent out through media advisories, the transit social media team, and by working with regions to leverage their social media networks to share communications.
- The new version of NextRide will allow for messages to be pushed out to transit users.

- Transit is in the process of revisiting the snow policy. Transit is aiming to make decisions earlier to enhance customer communications.

WORKING GROUPS

The Chair discussed working groups over the transition between committees. Those interested in continuing to discuss TAC items over the break were encouraged to email the Chair.

ADJOURNMENT

The meeting adjourned at 5:51 p.m.

Councillor Phelps Bondaroff, Chair

I hereby certify these Minutes are accurate.

Kirsten Brazier, Committee Secretary



The Corporation of the District of Saanich

Report

To: Transportation Advisory Committee

From: Councillor Phelps Bondaroff

Date: 01/02/23

Subject: Noise Camera Pilot Project

RECOMMENDATION

That the Transportation Advisory Committee send the following report to Saanich Council and recommend that Council endorse the following motion:

Saanich Council requests that staff explore and report back on the feasibility of running a noise camera pilot project in the District of Saanich.

PURPOSE

This report outlines a proposal for the deployment of noise cameras in the District of Saanich. These cameras are designed to detect vehicles with aftermarket exhausts and other exhaust systems that exceed legal limits under BC's Motor Vehicle Act (MVA), as well as vehicles that produce noise in excess of limits established by the MVA. The deployment of noise cameras aims to address challenges with enforcement and mitigate the adverse impacts that noise pollution has on health and well-being.

BACKGROUND

Saanich is a vibrant and growing community, with considerable density planned, particularly in centres, in village areas, and along major corridors (as outlined in our Centres, Corridors, and Villages Plans (CCVs)). This approach will help foster sustainable, walkable, more affordable, and complete communities, but it also presents some challenges. One consequence of increased density, particularly that which is focused along major roads, is an increase in noise pollution.

The adverse effects of noise pollution on public health and well-being are well documented, and there is a growing understanding that noise pollution also adversely



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impacts community connectivity. Noise pollution can originate from several sources in an urban environment. One particularly pernicious source comes from vehicles, especially those equipped with aftermarket exhaust systems that breach legal limits.

The MVA includes provisions regulating noise emissions from vehicles (see Appendix I and Appendix II), and Saanich Bylaw 7059 addresses the abatement and control of noise in the municipality (see Appendix III). Enforcing these regulations are challenging, and as a result, vehicular noise pollution in the district persists.

These enforcement challenges are not limited to the District of Saanich, but rather are a result of the nature of the problem. In response, other jurisdictions across Canada and elsewhere have explored the use of new technology to improve monitoring and enforcement. This report proposes the implementation of noise cameras as an innovative and effective solution to address these issues.

What is Noise

Sound is commonly quantified using decibels, denoted as dB. A-weighted decibels, or dBA, provide a representation of the perceived loudness of sounds in the air as registered by human ears. As an illustration, typical breathing registers at 10 decibels, a quiet whisper at 30, regular conversation at 60, city traffic or a noisy restaurant at 80, a rock concert at 110-120, a chainsaw at 110, and a shotgun blast at 170. It is important to note that decibels are described by a logarithmic scale, which means that a 10-decibel increase equates to a tenfold rise in sound intensity, or approximately a doubling of loudness. Sound becomes noise when it is unwanted.

The MVA sets the maximum allowable dBA from motor vehicles operating in the province as 83 dBA for light duty vehicles, 88 dBA for gasoline-powered heavy duty vehicles, 91 dBA for motorcycles, and 93 dBA for diesel-powered heavy duty vehicles. For context, examples of other sources of noise at 91 dBA include some power tools, such as pneumatic drills or chainsaws.

Vehicular noise can be generated in a number of different ways. These include “(1) vehicle traction systems including the engine, braking, exhaust (2) the interface of the wheel and the road or rail and (3) displacement of air, which is important at high speeds.¹ Modern vehicles are equipped with exhaust systems, which help reduce some of the sound they generate. Unfortunately, some individuals are known to make illegal modifications of their exhaust systems, with the expressed purpose of producing

¹ Bhatia, R. (2014). “Noise pollution: Managing the challenge of urban noise.” *Earth Journalism Network*. Available at <https://earthjournalism.net/resources/noise-pollution-managing-the-challenge-of-urban-sounds>



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excessive noise, which will be referred to hereafter as ‘aftermarket mufflers.’ It should be noted that the purpose of these vehicle accessories is to increase the noise emissions from a vehicle, and there are a number of ways in which someone can modify the exhaust of a vehicle to increase its noise output.² Low-budget options for increasing noise output include drilling holes in portions of the exhaust, to the use of a resonator delete kit, to the installation of an aftermarket exhaust system. While a number of factors can contribute to the maximum noise output resulting from these measures (such as vehicle type, engine RPM, engine horsepower, etc.) these measures can easily increase the noise output above 100 db. In some car blogs, aficionados report tuning their vehicles to reach noise output levels to 126 dB or more.³

Excessive noise can also be generated by how a vehicle is driven. For example, a ‘burnout’ – the practice of keeping a vehicle stationary and spinning its wheels – can generate excessive noise, between 90 and 100 dBA, or higher. Excessive engine revving can also be a source of acute vehicular noise pollution, with the volume depending on a number of factors.⁴

Other sources of noise include sirens from emergency response vehicles, car alarms and backup beepers, as well as sounds generated from the operation of specific components of industrial vehicles, like sanitation vehicles. Slower speeds can also help reduce vehicular noise pollution.

Noise Pollution Impact on Health and Well-Being

Noise pollution has wide-ranging negative effects on public health and well-being. Prolonged exposure to high levels of noise has been linked to increased stress, sleep disturbances, and cardiovascular issues:

² Corsa Performance. (n.d.). “The Best-Sounding Exhaust On the Road: How To Make Your Exhaust Louder, Deeper & More Aggressive.” Available at <https://www.corsaperformance.com/blogs/news/the-best-sounding-exhaust-on-the-road>; and see Seizovic, A. (2020 December 5). “Why a loud exhaust makes you much cooler.” Available at <https://sweeswa.com/blog/2020/11/1/why-a-loud-exhaust-makes-you-much-cooler>

³ The 370Z.com. (2009). “How loud is your aftermarket exhaust? A call for decibels.” Available at <http://www.the370z.com/intake-exhaust/9169-how-loud-your-aftermarket-exhaust-call-decibels-3.html>

⁴ See for example Tingwall, E. (2015). “The physics of engine notes, or: Why a Toyota V-6 and Porsche flat-six sound so different.” *Car and Driver*. Available at <https://www.caranddriver.com/features/a15107374/this-is-why-various-engine-types-sound-so-different-feature/>



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Stress and Cardiovascular Effects

Exposure to constant or intermittent noise can lead to the activation of stress response systems, including the release of stress hormones such as cortisol and adrenaline. Prolonged stress hormone release has been linked to cardiovascular issues, including hypertension and increased risk of heart disease.⁵ Transportation noise pollution has been connected to increased risk and mortality from myocardial infarction (heart attacks).⁶

Sleep Disturbances

Noise pollution, especially during nighttime, can disrupt sleep patterns and lead to sleep disturbances. Chronic sleep disturbances are associated with a range of health problems, including impaired cognitive function, mood disorders, and compromised immune function.⁷

Cognitive Impairment and Learning Disabilities

Noise exposure has been linked to cognitive impairment, particularly in children. Studies suggest that chronic exposure to noise can impact cognitive development, potentially leading to learning disabilities and decreased academic performance.⁸

⁵ See for example Babisch, W. (2005). "Stress hormones in the research on cardiovascular effects of noise." *Noise & Health*, 7(28), 1-11. Available at <https://pubmed.ncbi.nlm.nih.gov/12631430/>; van Kempen, E., & Babisch, W. (2012). "The quantitative relationship between road traffic noise and hypertension: A meta-analysis." *Journal of Hypertension*, 30(6), 1075-1086. Available at <https://pubmed.ncbi.nlm.nih.gov/22473017/>

⁶ See for example Héritier, H., *et al.* (2019). "A systematic analysis of mutual effects of transportation noise and air pollution exposure on myocardial infarction mortality: a nationwide cohort study in Switzerland." *European Heart Journal*, 40(7), 598-603. Available at <https://academic.oup.com/eurheartj/article/40/7/598/5144026?login=false>;

⁷ See for example Basner, M., *et al.* (2014). "Auditory and non-auditory effects of noise on health." *The Lancet*, 383(9925), 1325-1332. Available at [https://www.thelancet.com/journals/lancet/article/PIIS0140-6736\(13\)61613-X/fulltext](https://www.thelancet.com/journals/lancet/article/PIIS0140-6736(13)61613-X/fulltext); and see Halperin, H. (2014). "Environmental noise and sleep disturbances: A threat to health?" *Sleep Science*, 7(4) 209-212. Available at <https://pubmed.ncbi.nlm.nih.gov/26483931/>; Jun Ju, Y., *et al.* (2021). "Association between perceived environmental pollution and poor sleep quality: results from nationwide general population sample of 162,797 people." *Sleep Medicine*, 80, 236-243. Available at <https://www.sciencedirect.com/science/article/abs/pii/S1389945721000605>; Smith, M.G., Cordoza, M., & Basner, M. (2022). "Environmental noise and effects on sleep: An update to the WHO systematic review and meta-analysis." *Environmental Health Perspectives*, 130(7). Available at <https://ehp.niehs.nih.gov/doi/pdf/10.1289/EHP10197>

⁸ Stansfeld, S.A., & Matheson, M.P. (2003). "Noise pollution: non-auditory effects on health." *British Medical Bulletin*, 68(1), 243-257. Available at <https://academic.oup.com/bmb/article/68/1/243/421340>; Evans, G. W., Hygge, S., & Bullinger, M. (1995). "Chronic noise and psychological stress." *Psychological Science*, 6(6), 333-338. Available at <https://doi.org/10.1111/j.1467-9280.1995.tb00522.x>;



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Annoyance and Mental Health

Annoyance caused by noise pollution, has been associated with adverse mental health outcomes. Loss of sleep caused by noise pollution, as well as increased levels of annoyance have been linked to psychiatric disorders.⁹ Noise annoyance can be defined as “a feeling of resentment, displeasure, discomfort, dissatisfaction, or offense when noise interferes with someone's thoughts, feelings, or actual activities.”¹⁰

Adverse Pregnancy Outcomes

Exposure to noise pollution during pregnancy has been linked to adverse outcomes, including preterm birth and low birth weight. Pregnant women exposed to high levels of noise may face increased risks of complications during pregnancy.¹¹

Noise is a biological stressor; it triggers autonomic chemical mechanisms for arousal and alertness. Consequently, noise may also cause or aggravate conditions related to chronic stress and exacerbate other existing health conditions.

Social Impacts of Noise Pollution

Noise pollution has a negative impact on community, beyond the aforementioned adverse physical and psychological health impacts. Even moderate levels of noise can limit or interfere with the ability to conduct daily tasks and activities, such as having an

⁹ See for example Klompmaaker, J.O., *et al.* (2019). “Associations of combined exposures to surrounding green, air pollution and traffic noise on mental health.” *Environment International*, 129, 525-537. Available at <https://www.sciencedirect.com/science/article/pii/S016041201930162X>; Tortorella, A., *et al.* (2022). “New determinants of mental health: the role of noise pollution. A narrative review.” *International Review of Psychiatry*, 34(7-8), 783-796. Available at

<https://www.tandfonline.com/doi/abs/10.1080/09540261.2022.2095200>; Hegewald, J., *et al.* (2020). “Traffic noise and mental health: A systematic review and meta-analysis.” *International Journal of Environmental Research and Public Health*, 17, 6175. Available at www.mdpi.com/journal/ijerph; Peen J, Schoevers RA, Beekman AT, Dekker J. (2010). “The current status of urban-rural differences in psychiatric disorders.” *Acta Psychiatrica Scandinavica*, 121, 84–93. Available at <https://pubmed.ncbi.nlm.nih.gov/19624573/>

¹⁰ Bhatia, R. (2014). “Noise pollution: Managing the challenge of urban noise.” *Earth Journalism Network*. Available at <https://earthjournalism.net/resources/noise-pollution-managing-the-challenge-of-urban-sounds>

¹¹ See for example Gehring, U., *et al.* (2014). “Impact of noise and air pollution on pregnancy outcomes.” *Epidemiology*, 25(3), 351-358. Available at <https://pubmed.ncbi.nlm.nih.gov/24595395/>; Auger, N., *et al.* (2018). “Environmental noise pollution and risk of preeclampsia.” *Environmental Pollution*, 239, 599-606. Available at <https://www.sciencedirect.com/science/article/abs/pii/S0269749118300988>;



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ordinary conversation, enjoying leisure activities, resting, sleeping, concentrating, or getting tasks done.

Noise pollution can disrupt face-to-face communication and social interactions in public spaces. High levels of background noise make it difficult for people to engage in conversations, leading to reduced social cohesion.¹² The opposite has also been found, namely that the presence of natural sounds, such as birdsong and the sounds of water, increase the number of people engaging in social interactions, the frequency of group social interactions, and the duration of social interactions.¹³ As an illustration, one need only imagine holding a lengthy and intimate conversation with a close friend in a quiet park setting as compared to on the side of a busy highway.

While the aforementioned loss of sleep and stressed caused by noise pollution can have physiological effects on residents, it can also more generally contribute to increased levels of stress and annoyance. Persistent stress and annoyance adversely impact the overall quality of life for residents. Persistent noise can lead to community annoyance, causing stress among residents.

Saanich is well known for our beautiful and abundant parks, trails, and greenspaces. Our *2022 Citizen and Business Satisfaction Survey* found that “a key aspect of community well-being includes residents use and perceptions of parks and recreation facilities.”¹⁴ Noise pollution greatly reduces resident’s enjoyment of public spaces, parks, trails, and recreational areas. Excessive noise levels in parks, playgrounds, and other communal areas deters people from using these spaces for relaxation and social activities. Residents may feel disconnected from their neighbors due to the constant intrusion of noise, contributing to a decline in social bonds and community

¹² See for example Montgomery, C. (2014). *Happy city: Transforming our lives through urban design*. Canada: Doubleday Canada, p.169; and see Jones, D.M., Chapman, A.J., & Auburn, T.C. (1981). “Noise in the environment: A social perspective.” *Journal of Environmental Psychology*, 1(1), 43-59. Available at [https://doi.org/10.1016/S0272-4944\(81\)80017-5](https://doi.org/10.1016/S0272-4944(81)80017-5); Wiki, J., Kingham, S., & Banwell, K. (2108). “Re-working Appleyard in a low density environment: An exploration of the impacts of motorised traffic volume on street livability in Christchurch, New Zealand.” *World Transport Policy and Practice*, 24(1), 60-68. Available at <https://ir.canterbury.ac.nz/server/api/core/bitstreams/d935f45c-3070-4ea9-8ad9-9aa8659dfd6f/content>; Appleyard, D. (1980). “Livable streets: Protected neighborhoods?” *Annals of the American Academy of Political and Social Science*, 451(1), 106-117; Appleyard, D., & Lintell, M. (1972). “The environmental quality of city streets: The residents’ viewpoint.” *Journal of the American Institute of Planners*, 38(2), 84-101. Available at <https://www.tandfonline.com/doi/abs/10.1080/01944367208977410>

¹³ Chen, X., & Kang, J. (2023). “Natural sounds can encourage social interactions in urban parks.” *Landscape and Urban Planning*, 239, 104870. Available at <https://www.sciencedirect.com/science/article/pii/S0169204623001895>

¹⁴ District of Saanich. (2023 March). “Saanich 2022 Citizen and Business Satisfaction Survey Report.” Available at <https://www.saanich.ca/assets/Local~Government/Documents/Corporate~and~Annual~Reports/2022SaanichCitizenBusinessSurveyReport.pdf> p. 26.



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cohesiveness. After all, the first thought that leaps to mind when one is awoken in the middle of the night by an aftermarket muffler is certainly not, “there goes someone I’d love to connect with, I’m so glad they announced their presence to the world.”

Noise pollution has far-reaching consequences for social interactions and community well-being. It not only disrupts everyday social activities but also erodes sense of community and hampers the enjoyment of communal spaces. Addressing noise pollution is essential not only for individual health, but also for fostering a healthy and cohesive community environment. This in turn can have additional adverse impacts on individual health. Research has been increasingly identifying links between social isolation and loneliness and increased risks for heart disease and stroke, type 2 diabetes, depression and anxiety, addiction, suicidality and self-harm, dementia, and earlier death.¹⁵

Given the relationship between vehicle speed and noise generation, those living in close proximity to busy roads, major thoroughfares, and highways may be disproportionately affected by vehicular noise pollution. As a result of the construction of more affordable housing options in close proximity to major corridors, research indicates that lower-income residents may be exposed to increased levels of noise pollution.

One study in Montreal found that “environmental noise exposure appears to be higher in areas of greater socioeconomic disadvantage.”¹⁶ Another study of noise in Montreal found that “low-income individuals and visible minorities live in city blocks marked by road traffic noise levels that are slightly higher than those experienced by the rest of the population.”¹⁷ In a study from the United States, researchers found that “nighttime and daytime noise levels were higher for census block groups with higher proportions of nonwhite and lower-socioeconomic status (SES) residents.”¹⁸

¹⁵ National Center for Chronic Disease Prevention and Health Promotion, Division of Population Health (USA). (2023). “Health risks of social isolation and loneliness.” Available at <https://www.cdc.gov/emotional-wellbeing/social-connectedness/loneliness.htm#:~:text=Social%20isolation%20and%20loneliness%20have%20been%20linked%20to%20increased%20risk%20for%3A&text=Heart%20disease%20and%20stroke,Depression%20and%20anxiety>.

¹⁶ Dale, L.M., *et al.* (2015). “Socioeconomic status and environmental noise exposure in Montreal, Canada.” *BMC Public Health*, 15, Article 205. Available at <https://bmcpublihealth.biomedcentral.com/articles/10.1186/s12889-015-1571-2>

¹⁷ Carrier, M., Apparicio, P., & Séguin, A.-M. (2015). “Road traffic noise in Montreal and environmental equity: What is the situation for the most vulnerable population groups?” *Journal of Transport Geography*, 51. Available at <https://www.sciencedirect.com/science/article/abs/pii/S0966692315002021?via%3Dihub>

¹⁸ Casey J.A., *et al.* (2017). “Race/ethnicity, socioeconomic status, residential segregation, and spatial variation in noise exposure in the contiguous United States.” *Environmental Health Perspectives*, 125(7). Available at



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Enforcement Challenges

Enforcing noise regulations related to vehicle exhaust systems presents various challenges. Traditional enforcement methods, such as patrols and roadside inspections, are resource-intensive, can be dangerous for all parties involved, and offer only intermittent coverage.

When someone is awoken or disturbed by an aftermarket muffler, they may not be able to effectively report the potential noise ordinance/MVA infraction to law enforcement. One is much more likely to hear the offending vehicle, but not see it. As a result, while many residents are disturbed by vehicular noise pollution, the number of actual formal complaints is low. After all, very few people, when disturbed in the early hours of the day by a vehicle will think to pick up the phone and call law enforcement, and if they did, what would they report? Unless a person actually sees the offending vehicle, they lack the information necessary for law enforcement to act.

Enforcement of vehicular noise regulations with personnel is resource intensive, requiring the allocation of law enforcement personnel with the appropriate equipment. Traditional enforcement methods offer only sporadic coverage, as officers have other obligations, and noise pollution may be a lower priority. Enforcing these regulations at the side of the road could also risk the safety of all parties involved. Effectively employing measuring devices on the side of the road can also present a challenge with respect to accurately measuring noise levels, leading to potential disputes and legal complexities. Challenges with enforcement reduce the perception that offenders will be detected, leading to decreased compliance.

Vehicular Noise in Saanich

The Saanich Traffic Safety Unit reports that over the five year period between August 1, 2018, and August 1, 2023, 11 specific complaints that would be considered residents

<https://pubmed.ncbi.nlm.nih.gov/28749369/>; see also Habte Nega, T., *et al.* (2013)/. "Traffic noise and inequality in the Twin Cities, Minnesota." *Human and Ecological Risk Assessment: An International Journal*, 19(3). Available at <https://www.tandfonline.com/doi/abs/10.1080/10807039.2012.691409?journalCode=bher20>; and see also McMullan, T. (2019, April 25). "Cities are louder than ever – and it's the poor who suffer most." *The Guardian*. Available at <https://www.theguardian.com/cities/2019/apr/25/cities-are-louder-than-ever-and-its-the-poor-who-suffer-most?fbclid=IwAR1Lui7Ejj3J7MadEQCYRH-EI7qmWS84uifvyzc1JvxqRdqeldn4SgFfLTK>



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complaining of loud vehicle exhaust/mufflers resulted in a patrol or traffic response by Saanich Police Department. The investigative results from these incidents varied from Violation Tickets to Notice and Order (vehicle inspection order), warning letters, verbal warnings, or no action.

Overall, Saanich Police have issued 40 enforcement documents (written warnings, Violation Tickets, and Notice and Orders) over the last 5 years. The Traffic Safety Unit does not have an ongoing enforcement campaign related to unnecessary noise, nor do they receive regular complaints from the public.

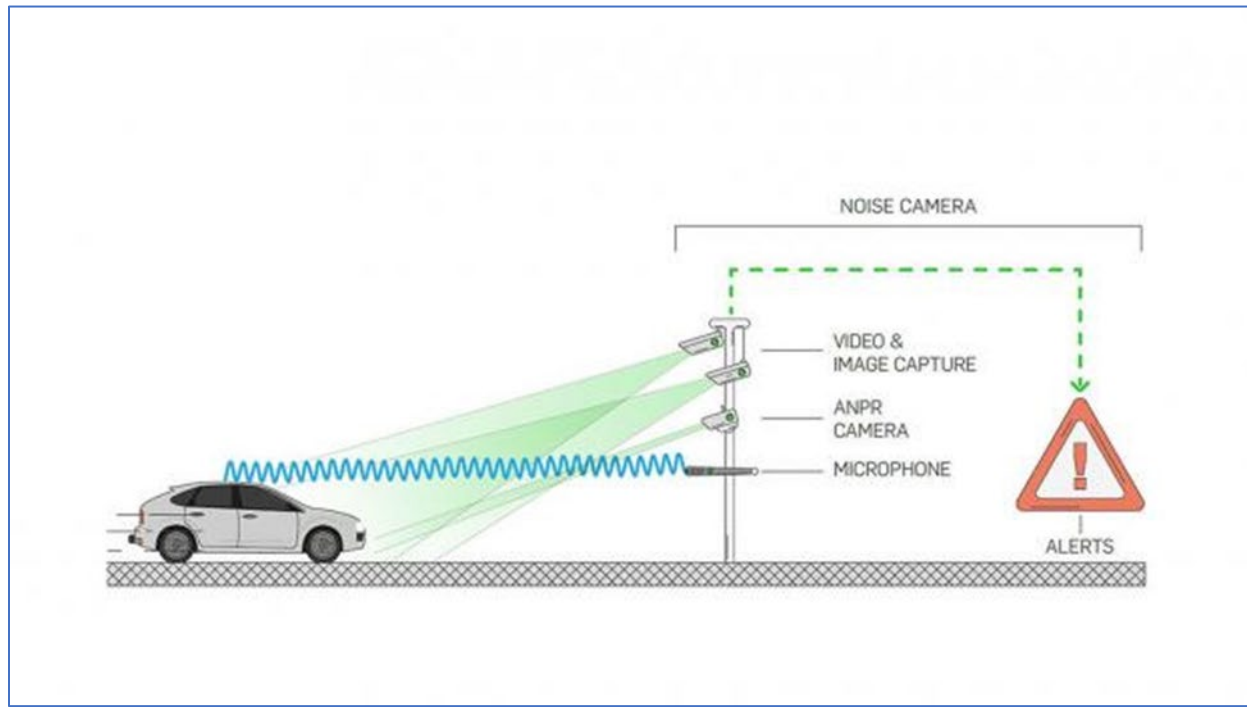
Lower levels of formal complaints reflects the aforementioned challenges with reporting. To illustrate, Saanich Police note that they occasionally receive traffic incident files for loud exhaust that are no longer in progress and do not meet further requirement for investigation and are concluded in the first instance. It is clear that while residents may be bothered by vehicular noise pollution, many do not find making a formal complaint to be effective.

Noise Cameras

Noise cameras offer an innovative and efficient alternative to our current enforcement approach, one that can continuously monitor and identify vehicles in real-time, providing a cost-effective solution to enforcement challenges. Noise cameras are traffic cameras “that are equipped with a high-definition camera and audio sensor that are triggered by cars and other vehicles that exceed pre-defined noise limits.”¹⁹

¹⁹ Rosenbaum, D. (2023 February 15). “Noise cameras’ aim to address vehicle nuisance complaints on city streets.” *Smart Cities Dive*. Available at <https://www.smartcitiesdive.com/news/noise-cameras-address-vehicle-nuisance-complaints-city-streets/642575/>

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Cameras are installed adjacent to the roadway in areas of concern, and they are activated when they detect a noise that registers at or above legal thresholds. There are number of different types of cameras available, with new technology continuing to be developed.

Solutions from Other Communities

Several jurisdictions have successfully implemented pilot projects deploying noise cameras. These include:

- Great Yarmouth, Bradford, Bristol and Birmingham, UK, October 2022, deployed a noise camera pilot.²¹ Kingston and Chelsea, London, UK, September to December, 2020. This program fined 144 drivers caught racing or revving their engines in Sloane Street and Pont Street between September and December,

²⁰ Eastern Daily Press. (2022 October 21). "Will loud exhaust 'noise cameras' catch boy racers?" Available at <https://www.edp24.co.uk/news/23069094.will-loud-exhaust-noise-cameras-catch-boy-racers/>

²¹ Khan, A.J. (2022 October 18). "Noise cameras to be trialled in England to tackle 'boy racers.'" *The Guardian*. Available at <https://www.theguardian.com/politics/2022/oct/18/noise-cameras-boy-racers-trial-road-users-legal-limits> (accessed August 3, 2023).



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with 130 tickets given out in the first 11 days.²² A public opinion survey from the UK, carried out in December 2022 (N=1,424 drivers), found that 58% supported the use of cameras to detect illegally loud vehicles.²³

- New York, USA, adopted a citywide noise camera project in December 2023 after a successful summer pilot.²⁴ Cameras have also been deployed in Albuquerque, New Mexico,²⁵ Knoxville, Tennessee.²⁶
- Bayside Local Government Area, Sydney, Australia was contemplating noise cameras to combat ‘hooning’ – a term that describes a person who deliberately drives a vehicle in a reckless or dangerous manner, and which can include speeding, burnouts, doughnuts, or the screeching tyres.²⁷
- Paris, France deployed noise cameras in 2023. Cameras have also been deployed in six other sites across France.²⁸ In Paris, the cameras have been

²² The Standard. (2021). “Super fines for supercars’ as new acoustic cameras sounded out to beat noise menace.” Available at <https://www.standard.co.uk/news/london/fines-supercars-kensington-chelsea-acoustic-noise-cameras-b964613.html>; Paget, M. (2020 October 8). “Supercar boy racers get slap on wrists: Chelsea’s ‘noise cameras’ snared 130 drivers with loud engines in the first 11 days since being turned on... but ALL are told they face £100 if caught again.” Available at <https://www.dailymail.co.uk/news/article-8818895/Chelseas-noise-cameras-snared-130-drivers-loud-engines-11-days-switched-on.html>

²³ PA News Agency. (2023 August 17). “Motorists want noise cameras rolled out to catch offenders – survey.” *The National*, (Scotland). Available at <https://www.thenational.scot/news/national/23728303.motorists-want-noise-cameras-rolled-catch-offenders---survey/>; RAC. (2023 August 17). “Six-in-10 want ‘noise cameras’ rolled out so drivers of excessively loud vehicles are caught and fined.” Available at <https://www.rac.co.uk/drive/news/motoring-news/six-in-10-want-noise-cameras-rolled-out/>

²⁴ CBC News. (2023 January 23). “Obnoxiously loud car? A traffic camera might be listening.” Available at <https://www.cbc.ca/news/science/noise-cameras-new-york-1.6722843> (accessed August 3, 2023); Eyewitness News. (2023 December 6). “NYC approves new measure for citywide noise cameras to crackdown on loud cars.” Available at [https://abc7ny.com/new-york-city-council-traffic-laws-noise-cameras-loud-cars/14147382/#:~:text=NEW%20YORK%20CITY%20\(WABC\)%20%2D%2D,break%20the%20city's%20noise%20limit](https://abc7ny.com/new-york-city-council-traffic-laws-noise-cameras-loud-cars/14147382/#:~:text=NEW%20YORK%20CITY%20(WABC)%20%2D%2D,break%20the%20city's%20noise%20limit;); and see Nolan, E. (2023 December 5). “Quiet, please: New York’s ‘Noise Cameras’ are listening.” *New York Times*. Available at <https://www.nytimes.com/2023/12/05/nyregion/nyc-noise-cameras.html>

²⁵ Muñoz, S. (2022 December 6). “Albuquerque City Council approves noise camera program.” *KOAT Action News*. Available at <https://www.koat.com/article/noise-cameras-albuquerque/42170266>

²⁶ Rosenbaum, D. (2023 February 15). “‘Noise cameras’ aim to address vehicle nuisance complaints on city streets.” *Smart Cities Dive*. Available at <https://www.smartcitiesdive.com/news/noise-cameras-address-vehicle-nuisance-complaints-city-streets/642575/>; Klingler, M. (2022 July 21). “Around 1,300 cars set off new downtown Knoxville noise cameras so far.” *10 News*. Available at <https://www.wbir.com/article/tech/city-council-discusses-noise-camera-data/51-a2de9a35-cc55-4d51-a6c1-3326a082067f>

²⁷ Taylor, A., & Gladstone, N. (2023 June 25). “Noise cameras on the way as hoons drive residents out of their homes.” *The Sydney Morning Herald*. Available at <https://www.smh.com.au/national/nsw/noise-cameras-on-the-way-as-hoos-drive-residents-out-of-their-homes-20230621-p5di87.html>

²⁸ Yeung, P. (2022 April 26). “Europe’s noise capital tries to turn down the volume.” *Bloomberg*. Available at <https://www.bloomberg.com/news/features/2022-04-27/how-paris-is-waging-a-war-on-noise-pollution>; and see



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nicknamed the 'Medusa' because of the camera's similarity in appearance to a jellyfish (méduse in French).²⁹

Municipalities across Canada have also explored the use of noise cameras:

- Calgary, Alberta deployed free noise cameras as part of a pilot to validate the technology in 2011. The city was considering deploying noise cameras again in September 2022.³⁰ It is noteworthy that the 2011 pilot relied on first generation technology, which was provided at no cost by a manufacturer.
- Cambridge, Ontario recently conducted a noise bylaw review and was contemplating the use of noise cameras.³¹
- Edmonton, Alberta, ran a pilot starting in 2018. One lesson learned from this pilot was that LCD displays, indicating how loud a vehicle passing was, is a poor idea, as this tends to encourage stunting and anti-social behaviour.³²

Government of France. (2022 January 4). "Radars sonores : une expérimentation en conditions réelles pour lutter contre la pollution sonore." Available at <https://www.ecologie.gouv.fr/radar-sonore>

²⁹ Mietlicki, C., & Mietlicki, F. (2018). "Medusa: a new approach for noise management and control in urban environment." *Euronoise 2018*, Crete. Available at [2018 - Medusa.pdf \(bruitparif.fr\)](https://www.bruitparif.fr/2018-Medusa.pdf)

³⁰ Bowman, Z. (2022 November 15). "Calgary ready to adopt sound-activated noise camera to automatically ticket loud vehicles." *Auto Blog*. Available at <https://www.autoblog.com/2011/11/15/calgary-ready-to-adopt-sound-activated-noise-camera-to-automatic/>; and see Thomas, B. (2022 September 29). "Councillor wants crackdown on loud vehicles, calling it a 'quality of life' issue." *Calgary Herald*. Available at <https://calgaryherald.com/news/local-news/councillor-wants-crackdown-on-loud-vehicles-calling-it-a-quality-of-life-issue>

³¹ McGinty, J. (2023 July 26). "City councillor wants to quiet loud cars in Cambridge." *Cambridge Today*. Retrieved from <https://www.cambridgetoday.ca/local-news/city-councillor-wants-to-quiet-loud-cars-in-cambridge-7328276>; and see Doucet, B. (2023 December 9). "City of Cambridge moving toward more airtight noise bylaw." *Cambridge Times*. Available at https://www.cambridgetimes.ca/news/city-of-cambridge-moving-toward-more-airtight-noise-bylaw/article_1af035be-e907-55cf-87fa-758938546b92.html

³² Mertz, E. (2018 September 13). "Edmonton turns off 4 vehicle noise displays after complaints of stunting, intentional noise." *Global News*. Available at <https://globalnews.ca/news/4446261/edmonton-vehicle-noise-lcd-displays-complaints/>; see also Stolte, E. (2018 August 15). "'Photo radar for noise': Electronic displays, cameras being tested in eight spots." *Edmonton Journal*. Available at <https://edmontonjournal.com/news/local-news/photo-radar-for-noise-electronic-displays-cameras-being-tested-in-eight-spots>; and Riebe, N. (2018 August 15). "Noise-control technology now on Edmonton streets, listening and watching." *CBC News*. Available at <https://www.cbc.ca/news/canada/edmonton/edmonton-photo-radar-noise-monitoring-cameras-1.4787069>



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- Fredericton, New Brunswick, was recently considering deploying noise cameras.³³

Proposal

While noise cameras have been successfully piloted in a number of jurisdictions around the world and across Canada, they have yet to be piloted in a BC municipality. There are several factors to take into consideration before launching a pilot, these include:

- Technical – The technology behind noise cameras has improved dramatically since these tools were first deployed. It will be important to identify the technology that works best for the Saanich context.
- Pilot Design – Identifying target locations for cameras and other components to the pilot such as evaluation metrics.
- Legal Questions – Noise cameras have not yet been deployed in BC, and our legal team will need to explore legalities around their deployment, and provide answers to questions such as whether or not the pilot will be able to give out tickets for violations.

It is therefore proposed that Saanich Council requests that staff explore and report back on the feasibility of running a noise camera pilot project in the District of Saanich.

A pilot project will provide valuable data on the effectiveness of noise cameras in enforcing vehicular noise regulations. The data collected during the pilot project will assist in assessing the impact of noise camera enforcement on the overall compliance with noise regulations. A staff report on the feasibility of a noise camera pilot project will identify whether provincial regulations permit for the deployment of such a device, or whether additional advocacy to the province would be required.

SUMMARY

Vehicular noise pollution is not inevitable. Regulations exist to control the noise emitted by vehicles, however, there are considerable challenges with enforcing these regulations. As it stands, it is very difficult to call in an actionable complaint of an

³³ Sturgeon, N. (2022 September 2). "New Brunswick city discusses audio technology to enforce noise bylaw." *Global News*. Available at <https://globalnews.ca/video/9103460/fredericton-looking-into-noise-cameras-for-bylaw-enforcement>



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aftermarket muffler. As a result, vehicular noise persists in our district, with all the concomitant adverse physical and social impacts.

The deployment of noise cameras in the District of Saanich represents a proactive and innovative approach to address the challenges associated with noise pollution from vehicles. The proposed pilot project will provide valuable insights into the feasibility and effectiveness of noise cameras, contributing to the overall improvement of public health and well-being within the District.



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Strategic Plan Implications

By addressing noise pollution caused by vehicles with excessive exhaust noise, the District can contribute to creating a healthier and more livable environment for its residents. Saanich's 2023-2027 Strategic Plan identifies community well-being as a major theme, and within this theme, sets investing in people and neighbourhoods to foster community health and a sense of belonging as an objective. Working to reduce noise pollution will contribute to improving the health and well-being of our residents.



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Appendix I

Motor Vehicle Act

MOTOR VEHICLE ACT REGULATIONS³⁴

Division 7 — Other Equipment

Muffler

7.03(1) A motor vehicle propelled by an internal combustion engine shall be equipped with an exhaust muffler consisting of a series of pipes or chambers which ensures that the exhaust gases from the engine are cooled and expelled without excessive noise.

Cut-outs prohibited

(2) No person shall drive or operate a motor vehicle propelled by an internal combustion engine when the muffler with which the vehicle is equipped is cut out or disconnected from the engine.

Part removal prohibited

(3) No person shall drive or operate a motor vehicle propelled by an internal combustion engine equipped with a muffler from which has been removed any baffle plate or other part.

Alteration prohibited

(4) No person shall drive or operate a motor vehicle propelled by an internal combustion engine equipped with a muffler the exhaust outlet of which has been opened or widened.

Noise increase or flames prohibited

(5) No person shall drive or operate a motor vehicle propelled by an internal combustion engine equipped with a muffler or exhaust system to which is attached any device which increases the noise of the expulsion of the gases from the engine or allows a flame to be emitted from the exhaust system.

³⁴ Government of BC (2010). *Motor Vehicle Act Regulation*. B.C. Reg. 26/58, O.C. 1004/58. Available at https://www.bclaws.gov.bc.ca/civix/document/id/loo83/loo83/26_58_04



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Exhaust muffler

22A vehicle shall be equipped with an exhaust muffler which complies with section 7.03 of the regulations.

An exhaust system shall not have loose or leaking joints, seams or holes.

A muffler shall not have loose interior baffles or patches.

The exhaust system and its elements must be securely fastened.

The exhaust system shall not be located so that a person may be burned when entering or leaving the vehicle.

No part of an exhaust system may pass through a passenger compartment.

An exhaust system must not discharge excessive fumes or smoke.

Flexible hose used in an exhaust system shall be of a heavy duty type acceptable to the inspector.

Vehicle noise

27A motor vehicle shall be equipped with an exhaust muffler which complies with section 7.03 of the regulations.

The opinion of an inspector as to whether the engine and exhaust noise is greater than that made by other vehicles in good condition of comparable size, horsepower, piston displacement or compression ratio shall determine whether exhaust gases are expelled with excessive noise.

When tested in an inspection station, the vehicle engine, any auxiliary engine and exhaust level shall not exceed Table 3 standards.

[en. B.C. Reg. 658/76, s. 2.]

Class of Vehicle	Maximum Allowable Sound Pressure Level (DBA)
Light duty	83
Gasoline-driven heavy duty	88
Motorcycles	91
Diesel-driven heavy duty	93



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Division 7A — Noise from Motor Vehicles

Prohibition

7A.01 No person shall start, drive, turn or stop any motor vehicle, or accelerate the vehicle engine while the vehicle is stationary, in a manner which causes any loud and unnecessary noise in or from the engine, exhaust system or the braking system, or from the contact of the tires with the roadway.



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Appendix II

Offence Act

VIOLATION TICKET ADMINISTRATION AND FINES REGULATION³⁵

Provision	Contravention	Fine (>30 Days)	Reduced Fine (<=30 Days)	Victim Surcharge Levy	Ticket Amount (>30 Days)	Reduced Ticket Amount (<=30 Days)
Section 7A.01	Unnecessary Noise	\$95	\$70	\$14	\$109	\$84

³⁵ Government of BC (2023). *Offence Act: Violation Ticket Administration and Fines Regulation*. B.C. Reg. 89/97. O.C. 262/97. Available at https://www.bclaws.gov.bc.ca/civix/document/id/complete/statreg/89_97_04



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Appendix III

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BYLAW NO. 7059 for Abatement and Control of Noise in the Municipality of Saanich³⁶

1. Definitions

k) **SOUND** means the oscillation in pressure, stress, particle displacement or particle velocity, in a medium with internal forces (i.e., elastic, viscous) or the super position of such propagated oscillations, which oscillations are capable of causing an auditory sensation;

l) **SOUND LEVEL** is the average of the medians of 5 or more sets of lower and upper measurements of a series of A-weighted sound pressure levels read or recorded at a point of reception on a slow response of a sound level meter;

m) **SOUND LEVEL METER** means a sound measuring device designated to meet the American National Standard A.N.S.I. S14-1971 or the C.S.A. Standard Z107.1-1973, as the same may exist from time to time and specifically shall include:

i. Bruel and Kjaer - Sound Level Meter types 2205, 2208, 2213, and types 2203, 2204, 2206, and 2209, calibrated with a Bruel and Kjaer Sound Level Calibrator type 4230, or Pistophone type 4220;

ii. General Radio - Sound Level Meter model 156-B; 1511-C and model 1933 calibrated with a General Radio Sound Level Calibrator model 1562-A.

iii. Quest Electronics model 214 Sound Level Meter calibrated with a Quest Electronics Calibrator model CA-12.

2. GENERAL PROHIBITION

(a) No person shall make or cause to be made any noise or sound in or on a highway or elsewhere in the Municipality which disturbs or tends to disturb the quiet,

³⁶ District of Saanich (1993). *Noise Suppression Bylaw*. Bylaw #7059. Available at <https://www.saanich.ca/assets/Local~Government/Documents/Bylaws~and~Policies/noise-suppression-bylaw-1993-no-7059.pdf>



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peace, rest, enjoyment, comfort or convenience of the neighbourhood or of persons in the vicinity thereof.

(b) No person shall shout, use a megaphone or make other noise in or at or on streets, wharves, docks, piers, steamboat landings, railway stations, or other public places which disturbs or tends to disturb the quiet, peace, rest, enjoyment comfort or convenience of the neighbourhood or of persons in the vicinity thereof.

7.1 ENGINE RETARDANT BRAKES

(a) The Council believes that the noise produced by the use of an engine retardant brake on a motor vehicle on any highway in the District of Saanich, is objectionable and liable to disturb the quiet, peace, rest, enjoyment, comfort or convenience of individuals and members of the public.

(b) No person shall use an engine retardant brake while operating a motor vehicle on a highway in the District of Saanich except to assist in stopping or slowing down the vehicle in an emergency.

9. SOUND MEASUREMENT

A sound level measurement shall be sufficient for all purposes if it is carried out in accordance with the following:

- i) sound level measurements shall be taken with a sound level meter;
- ii) sound levels shall be measured on the A-weighted network and the slow meter response;
- iii) the sound level meter shall be complete with calibrator and windscreen and shall be operated in the following manner:
 - (a) Sound level meters shall be used and operated in accordance with manufacturer's instructions. The sound level meter shall be calibrated before and after readings have been taken.
 - (b) When determining the sound level from a source, the ambient or background noise or sound level shall be established at the appropriate position and during the relevant period of time wherever possible before taking sound measurements from the source. No measurement should be attempted if the difference is 3 decibels or less.



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(c) Sound measurements shall be made at a distance of approximately 10 feet from any wall, buildings or other reflecting structures with the microphone appropriately oriented to eliminate as much as possible all reflected sound.

10. INTERPRETATION

Where any word or term or name or abbreviated word or abbreviated term or abbreviated name that is not defined in this bylaw, or, where any technical standard or abbreviated technical standard that is not set out in this bylaw, is used in this bylaw, such word, term, name, abbreviated word, abbreviated term, abbreviated name, technical standard or abbreviated technical standard shall be interpreted by reference to the definitions and technical standards last published by the Canadian Standards Association (C.S.A.), or by the American National Standards Institute (A.N.S.I.), or by the International Organization for Standardization (I.O.S.) or by the International Electro-Technical Commission (I.E.C.) or by the Society of Automotive Engineers (S.A.E.) or by the Machinery and Equipment Manufacturers' Association of Canada (M.E.M.A.C.) as the context of this bylaw and the case may require.

11. EXEMPT NOISE

The provisions of this bylaw shall not apply to:

(c) Any vehicle, machinery or equipment owned, leased or operated by the Municipality, the Police Department or any other public body or owned, leased or operated by a contractor engaged by the Municipality, the Police Department or any other public body while carrying out a public service or carrying out work in or on a highway, bridge, park, the Municipal Public Works Yard or other public infrastructure.

(d) The sounding of a horn or other signalling device upon any vehicle boat or train where such sounding is properly and necessarily used as a danger or warning signal.

(f) Persons and their agents, servants, and employees or independent contractors under contract therewith and their agents, servants, and employees who are engaged in work of an essential or emergency nature and being done for the primary purpose of ensuring the health, safety or welfare of the residents of the Municipality.